

VI. Claims 44-83, drawn to a query to identify a knowledge container method, classified in class 707, subclass 3.

VII. Claims 84 and 86, drawn to a method of identify in a knowledge container associated with a knowledge map, classified in class 707, subclass 5.

VIII. Claims 87-92, drawn to a method of constructing a knowledge map from corpus of knowledge containers, classified in class 707, subclass 513.

IX. Claims 93-97, drawn to a method of building a hierarchy of knowledge map from plurality of knowledge containers, classified in class 707, subclass 7.

As provisionally elected telephonically by Applicants representative, Thomas F. Brennan, on October 24, 2002, Applicant hereby elects to prosecute the invention of Group I, claims 1-18. The claims of the non-elected invention, 19-97, are hereby canceled. However, Applicant reserves the right to later file continuations or divisions having claims directed to the non-elected inventions.

Claim Amendments and New Claims

Claims 4-6, 8-14, and 16-18 include clarifying amendments that more particularly point out and distinctly claim subject matter. Applicant respectfully submits such amendments are not in response to the prior art rejection or for reasons related to patentability because, as discussed below, all of claims 1-18 are distinguishable over the cited prior art reference based entirely on language present in the originally-filed claims.

New claims 98 and 99 were added to separately claim aspects that were previously presented in originally-filed claim 5.

New claims 100-104 were added to separately claim aspects that were previously presented in originally-filed claim 6.

New claims 105-110 were added to separately claim aspects that were previously presented in originally-filed claim 7.

New claims 111-113 were added to more particularly point out and distinctly claim subject matter.

Applicant submits that all such amendments and new claims are fully supported by the specification and are consonant with Applicant's election of claims.

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§102 Rejection of the Claims

Claims 1-18 were rejected under 35 U.S.C. § 102(e) as allegedly anticipated by Agrawal et al. (US 6,233,575). Applicant traverses. The Examiner's burden of establishing a *prima facie* case of anticipation requires, among other things, the disclosure in a single prior art reference of each element of the claim under consideration. *See In re Dillon* 919 F.2d 688, 16 U.S.P.Q.2d 1897, 1908 (Fed. Cir. 1990) (*en banc*). However, Applicant can find no disclosure in Agrawal et al. of using a plurality of separate taxonomies, each separate taxonomy representing one of said discrete perspectives of the knowledge domain, as presently recited or incorporated in claims 1-18. Instead, Agrawal et al. clearly relates only to using a single "topic" taxonomy. (*See* Agrawal et al. at Fig. 2; column 4, lines 37-42; column 8, lines 57-58; column 9 line 50 through column 10, line 22.) Because all elements of claims 1-18 are not disclosed, taught, or suggested in Agrawal et al., Applicant respectfully requests withdrawal of this basis of rejection of claims 1-18.

Moreover, regarding claim 5 (as previously-presented, and as now claimed separately in new claim 98), the rejection apparently takes the position that a filter taxonomy in which each node represents meta-data is disclosed by the patent classification taxonomy referred to in column 10, lines 12-22 of Agrawal et al. Applicant disagrees. The claim language states that meta-data are characteristics of knowledge instances that cannot be readily derived from the content of the knowledge instance. However, Applicant respectfully submits that a patent classification, which is printed on the face of every U.S. patent document, can be read directly from the content of the U.S. patent document and, therefore, is not meta-data as recited in new claim 98. Accordingly, Applicant respectfully requests withdrawal of this basis of rejection, and allowance of new claim 98.

Regarding the rejection of the "process taxonomy" of claim 6, this claim presently states that each node in the process taxonomy represents a step in one or more business processes. However, the cited portion of Agrawal et al. merely states:

Thus, with reference to the hierarchy represented in FIG. 2, statistics are calculated for the "science" node 28, based on the terms in all of the documents d from the collection set 42 that are classified in classes represented by nodes (terminal and intermediate) below the "science" node 28, including the nodes

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labeled “biology,” “chemistry,” “electronics,” and all children nodes of these nodes.

(Agrawal et al. at column 10, lines 59-64.) Applicant can find no disclosure in the cited portion of Agrawal et al., or elsewhere in Agrawal et al., of each node in a process taxonomy representing a step in one or more business processes, as recited in claim 6. Accordingly, Applicant respectfully requests withdrawal of this basis of rejection of claim 6.

Regarding the rejection of the “diagnostic taxonomy” of claim 6 (as previously-presented, and as now claimed separately in new claim 101), this claim presently states that each node of the diagnostic taxonomy represents at least one symptom of a problem. However, the cited portion of Agrawal et al. merely states:

Consider, for example, a situation in which a wildlife researcher is attempting to find information about the running speed of the jaguar, using the conventional AltaVista™ internet search engine (<http://www.altavista.digital.com>), with the query “jaguar speed”. In a test search conducted with the above-noted search engine and query, a variety of responses were generated, spanning the car, the Atari™ videogame, the football team, and a LAN server, in no particular order. The first page about the animal was ranked 183, and was directed to a fable.

To eliminate the responses on cars, the test query was then changed to “jaguar speed-car-auto”. The top response in the generated results read as follows:

(Agrawal et al. at column 2, lines 32-44.) Applicant can find no disclosure in the cited portion of Agrawal et al., or elsewhere in Agrawal et al., of each node in a diagnostic taxonomy representing at least one symptom of a problem, as recited in new claim 101. Accordingly, Applicant respectfully requests withdrawal of this basis of rejection, and allowance of new claim 101.

Regarding the rejection of the “human characteristics taxonomy” of claim 6 (as previously-presented, and as now claimed separately in new claim 102), this claim presently states that each node in the human characteristics taxonomy represents one or more personal human attributes (e.g., address, height, weight, etc.). However, the cited portion of Agrawal et al. merely states:

Another paradigm of information retrieval is filtering, in which a continual stream of documents are generated on-line, as in newsgroups and newsfeed. The system

collects interest profiles from users and uses them to implement either content-based or collaborative filtering, i.e., it notifies the user only of those documents they are likely to be interested in.

(Agrawal et al. at column 6, lines 33-35). Although the cited portion of Agrawal et al. apparently does disclose user interest profiles, Applicant can find no disclosure in the cited portion of Agrawal et al., or elsewhere in Agrawal et al., of one or more personal human attributes being represented by a node in a separate “human characteristics taxonomy,” as recited in new claim 102. Instead, as discussed above, Agrawal et al. apparently only relates to using a single “topic” taxonomy. (*See also* Agrawal at column 6, line 32.) Accordingly, Applicant respectfully requests withdrawal of this basis of rejection, and allowance of new claim 102.

Regarding the rejection of the “entitlement taxonomy” of claim 6 (as previously-presented, and as now claimed separately in new claim 103), this claim presently states that each node in the entitlement taxonomy represents an access control level of permission for viewing content or accessing resources of knowledge instances. However, the cited portion of Agrawal et al. merely states:

In yet another preferred embodiment, the above system can be used to process a search query. The search query is received from the user, for example, through a user input device in the form of keywords. Optionally, the user also restricts the topical context using a suitable selection on the taxonomy. Then a plurality of relevant documents which also adhere to the topic restrictions is retrieved. In a preferred embodiment, each document in the database has been pre-classified using the above system. The user is presented with a suitable display of those portions of the taxonomy where relevant documents were found. The user may then enter a command through the user input device to cause the system to select at least one of the displayed sub-topics. This process is repeated as necessary to refine the query topic until the user’s information need is satisfied.

(Agrawal et al. at column 9, lines 35-49.) The cited portion of Agrawal et al. apparently discloses only topic restrictions. Applicant can find no disclosure in the cited portion of Agrawal et al., or elsewhere in Agrawal et al., of an access control level of permission for viewing content or accessing resources of knowledge instances, as recited in new claim 103. Accordingly, Applicant respectfully requests withdrawal of this basis of rejection, and allowance of new claim 103.

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Regarding the rejection of the knowledge map representation of “a person, place, organization, product, family of products, or customer segment” of claim 7 (and as now additionally claimed separately in new claims 105-110), the rejection cites the following portion of Agrawal et al.

An example of a tree-like topic hierarchy, or taxonomy, for organizing a database of topical documents is shown in FIG. 2. The tree 20 includes a first level comprising a single node 22 titled “All Topics.” A second level of the tree may divided the first level “All Topics” node into several further nodes directed to general topic categories, such as Business and Economy 24, Recreation 26, Science 28, and so forth.

(Agrawal et al. at column 9, lines 58-64.) Applicant can find no disclosure in the cited portion of Agrawal et al., or elsewhere in Agrawal et al., of a knowledge map representation of “a person, place, organization, product, family of products, or customer segment” in one or more separate taxonomies, as recited in claim 7 and new claims 105-110. Instead, as discussed above, Agrawal et al. only discloses using a single “topic” taxonomy. Accordingly, Applicant respectfully requests withdrawal of this basis of rejection of claim 7, and allowance of claim 7 and new claims 105-110.

Regarding the taxonomic distance function of claim 8, the rejection cites the following portion of Agrawal et al.:

While embodiments of the invention may employ any directed acyclic graph hierarchy structure, embodiments are described herein with reference to a tree-like topic hierarchy.

(Agrawal et al. at column 9, lines 54-57.) Although this passage relates to structure of a hierarchy, it fails to disclose a taxonomic distance function between taxonomy nodes. Indeed, Applicant can find no disclosure in the cited portion of Agrawal et al., or elsewhere in Agrawal et al., of a knowledge map representation that includes a taxonomic distance function that is associated with at least one pair of nodes of a taxonomy and is a function of the graphical representation of the taxonomy, as recited in claim 8. Accordingly, Applicant respectfully requests withdrawal of this basis of rejection of claim 8.

Regarding the directionally-dependent taxonomic distance function of claim 9, the rejection cites the following portion of Agrawal et al.:

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The statistics related to these useful terms are retrieved from the database, and the statistics are used to compute a score for each of the children to the root node). A few children with high scores are then picked for further exploration. If any child is an intermediate node, it has associated with it another feature set. The set of all tokens in the test document is now intersected with this new feature set, and the procedure continues from the child in the same manner.

(Agrawal et al. at column 9, lines 20-29.) However, Applicant can find no disclosure in the cited portion of Agrawal et al, or elsewhere in Agrawal et al., of using a taxonomic distance between a pair of nodes in a taxonomy, and further using a directional dependence of such a taxonomic distance, as recited in claim 9. Accordingly, Applicant respectfully requests withdrawal of this basis of rejection of claim 9.

Regarding the depth-dependent taxonomic distance function of claim 10, the rejection cites the following portion of Agrawal et al.:

Upon obtaining a list of topic paths, the user may restrict the search to only one topic path or a few selected topic paths, by selecting one or more topics in the list. Depending upon the depth of the taxonomy, the selection of one or more topic paths may result in a list of further topic paths, representing further levels of the taxonomy.

(Agrawal et al. at column 6, lines 20-25.) Although this passage apparently mentions the depth of the taxonomy, it does so merely to note that, in a tree-structure, the depth of the taxonomy determines the number of further levels of the taxonomy. Applicant can find no disclosure in the cited portion of Agrawal et al., or elsewhere in Agrawal et al., of a knowledge map representation that uses a taxonomic distance between a pair of nodes in a taxonomy, and further using a taxonomic distance that depends on how deep the pair of nodes are within a taxonomy, as recited in claim 10. Accordingly, Applicant respectfully requests withdrawal of this basis of rejection of claim 10.

Regarding a taxonomic distance function incorporating a user-incorporated parameter, as recited in claim 11, the rejection cites the following portion of Agrawal et al.:

Upon obtaining a list of topic paths, the user may restrict the search to only one topic path or a few selected topic paths, by selecting one or more topics in the list. Depending upon the depth of the taxonomy, the selection of one or more topic paths may result in a list of further topic paths, representing further levels of the taxonomy.

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(Agrawal et al. at column 6, lines 20-25.) This passage apparently mentions user input to restrict the search to portion(s) of the taxonomy. However, Applicant can find no disclosure in the cited portion of Agrawal et al., or elsewhere in Agrawal et al., of a taxonomic distance function between pairs of taxonomy nodes, and of incorporating a user-parameter in such a taxonomic distance function, as recited in claim 11. Accordingly, Applicant respectfully requests withdrawal of this basis of rejection of claim 11.

Regarding an editable table for representing a user-incorporated parameter of a taxonomic distance function, as recited in claim 12, the rejection cites the following portion of Agrawal et al.:

The process employs a multilevel taxonomy having a plurality of nodes, including a root node, at least one intermediate node associated with and under the root node and a plurality of terminal nodes associated with and under each intermediate node. A different set of feature terms are associated with each intermediate node, which are used to classify test documents. The feature term sets are determined, according to preferred embodiments, during a training procedure.

(Agrawal et al. at column 8, lines 57-65.) This passage apparently mentions a training procedure by which feature terms are determined for classifying documents to nodes. However, Applicant can find no disclosure in the cited portion of Agrawal et al., or elsewhere in Agrawal et al., of a taxonomic distance function between pairs of taxonomy nodes, of incorporating a user-parameter in such a taxonomic distance function, or of an editable table for representing such a user-parameter, as recited in claim 12. Accordingly, Applicant respectfully requests withdrawal of this basis of rejection of claim 12.

Regarding a taxonomy-type dependent taxonomic distance function for a pair of nodes of a taxonomy, as presently recited in claim 13, the rejection cites the following portion of Agrawal et al.:

The statistics related to these useful terms are retrieved from the database, and the statistics are used to compute a score for each of the children to the root node). A few children with high scores are then picked for further exploration. If any child is an intermediate node, it has associated with it another feature set. The set of all tokens in the test document is now intersected with this new feature set, and the procedure continues from the child in the same manner.

(Agrawal et al. at column 9, lines 20-29.) Applicant can find no disclosure in the cited portion of

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Agrawal et al., or elsewhere in Agrawal et al., of a taxonomic distance function between a pair of taxonomy nodes, or of such a taxonomic distance function that depends upon a type of the taxonomy. Indeed, because Agrawal et al. only discloses using a single “topic” taxonomy, it actually teaches away from a taxonomic distance function, or anything else that depends upon a type of the taxonomy. Accordingly, Applicant respectfully requests withdrawal of this basis of rejection of claim 13.

Regarding claim 16, the rejection apparently takes the position that the taxonomic distance between nodes is disclosed in the following portion of Agrawal et al.:

The statistics are calculated for each node in the taxonomy, such that, for any one node, the discriminating power is calculated for the terms in all of the documents that are classified in terminal (and intermediate) nodes below that node. That is, the power that each term has to discriminate between classes in the next level below each node is calculated.

(Agrawal et al. at column 10, lines 52-58.) Applicant can find no disclosure in the cited portion of Agrawal et al., or elsewhere in Agrawal et al., of using a taxonomic distance between nodes.

The rejection also posits that Agrawal et al. discloses a knowledge map region centered about a particular central node (i.e., topic 22 in Fig. 2 of Agrawal et al.), with nodes that are members of the region having the least taxonomic distance from the particular central node (e.g., topics 24, 26, and 28 of Agrawal et al.). Without addressing the rejection’s argument that the topic 22 in Fig. 2 of Agrawal et al. somehow constitutes a central node, Applicant notes that claim 16 presently recites that the nodes that are members of the region are those nodes having a lower taxonomic distance from the particular central node than nodes that are not members of the region associated with the particular central node. However, Agrawal et al. fails to define any region in which members have a lower taxonomic distance than nonmembers. Indeed, even those topics in Fig. 2 of Agrawal et al. that are farthest from the alleged central node, i.e., topic 22, are still deemed to fall within the hierarchy under topic 22. For similar reasons, claim 18 is also distinguishable from Agrawal et al. Because Agrawal et al. does not disclose all elements of claims 16 and 18, Applicant respectfully requests withdrawal of this basis of rejection of these claims.

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AMENDMENT AND RESPONSE UNDER 37 C.F.R. 1.111

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Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney (612-373-6951) to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.


Respectfully submitted,

MAX COPPERMAN ET AL.

By their Representatives,

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.
P.O. Box 2938
Minneapolis, MN 55402
612-373-6909

Date Jan. 31, 2003

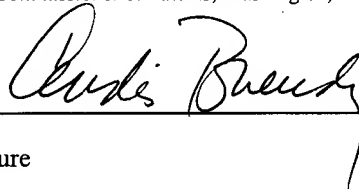
By 
Suneel Arora
Reg. No. 42,267

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner of Patents, Washington, D.C. 20231, on this 31st day of January, 2003.

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